

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

**ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD
RENUMBERING, AMENDING AND CREATING RULES**

The Wisconsin Natural Resources Board proposes an order to renumber ____; to amend ____; and to create ____, relating to____.

AM-XX-01

Authorizing statutes: ____ Stats.

Statutes interpreted: ____ Stats.

Analysis Prepared by the Department of Natural Resources

ANALYSIS INSERTED HERE

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

SECTIONS PRIOR TO NR 445 ARE NEW

REVISIONS ARE UNDERLINED IN BLUE

~~DELETED LANGUAGE STRIKE IN RED~~

COMMENTS HIGHLIGHTED IN YELLOW

NEW DEFINITIONS FOR 400 SERIES

SECTION____ NR 400.02____ is created to read:

Examples: compressed-ignition engine, manufacturer, processor, treatment, disposal

Alternate placement in individual chapters.

AMENDED DEFINITIONS FOR 400 SERIES

SECTION____ NR 400.02(95) and (162) are amended to read:

NR 400.02(95) "Maximum theoretical emissions" means the quantity of air contaminants that theoretically could be emitted by a stationary source without control devices based on the design capacity or maximum production capacity of the source. When determining annual maximum theoretical emissions, a source shall be presumed to operate 8,760 hours per year unless its physical design precludes 8,760 hours of operation per year. Where a source's physical design restricts the number of hours it may operate, annual maximum theoretical emissions shall be calculated taking this restriction into account. In determining the maximum theoretical emissions of VOCs for a source, the design capacity or maximum production capacity shall include the use of raw materials, coatings and inks with the highest VOC content used in practice by the source. In determining the maximum theoretical emissions of a hazardous air contaminant for a source, the design capacity or maximum production capacity shall include the use of raw materials, coatings and inks with the highest hazardous air contaminant content

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

[used in practice by the source.](#) Realistic operating conditions shall be taken into account in determining emissions under this subsection.

(162) "Volatile organic compound" or "VOC" means any organic compound which participates in atmospheric photochemical reactions. This includes any such organic compound other than the following compounds, which have been determined to have negligible photochemical reactivity:

- (a) Methane.
- (b) Ethane.
- (c) Methylene chloride (Dichloromethane).
- (d) 1,1,1-Trichloroethane (Methyl chloroform).
- (e) Trichlorofluoromethane (CFC-11).
- (f) Dichlorodifluoromethane (CFC-12).
- (g) Chlorodifluoromethane (HCFC-22).
- (h) Trifluoromethane (HFC-23).
- (i) 1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113).
- (j) 1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114).
- (k) Chloropentafluoroethane (CFC-115).
- (L) 1,1,1-Trifluoro-2,2-dichloroethane (HCFC-123).
- (m) 2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124).
- (n) Pentafluoroethane (HFC-125).
- (o) 1,1,2,2-Tetrafluoroethane (HFC-134).
- (p) 1,1,1,2-Tetrafluoroethane (HFC-134a).
- (q) 1,1-Dichloro-1-fluoroethane (HCFC-141b).
- (r) 1-Chloro-1,1-difluoroethane (HCFC-142b).
- (s) 1,1,1-Trifluoroethane (HFC-143a).
- (t) 1,1-Difluoroethane (HFC-152a).
- (u) Parachlorobenzotrifluoride (PCBTF).
- (v) Cyclic, branched or linear completely methylated siloxanes.
- (w) Acetone.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

- (x) 3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca).
- (xa) 1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb).
- (xb) 1,1,1,2,3,4,4,5,5,5-Decafluoropentane (HFC 43-10mee).
- (xc) Difluoromethane (HFC-32).
- (xd) Ethylfluoride (HFC-161).
- (xe) 1,1,1,3,3,3-Hexafluoropropane (HFC-236fa).
- (xf) 1,1,2,2,3-Pentafluoropropane (HFC-245ca).
- (xg) 1,1,2,3,3-Pentafluoropropane (HFC-245ea).
- (xh) 1,1,1,2,3-Pentafluoropropane (HFC-245eb).
- (xi) 1,1,1,3,3-Pentafluoropropane (HFC-245fa).
- (xj) 1,1,1,2,3,3-Hexafluoropropane (HFC-236ea).
- (xk) 1,1,1,3,3-Pentafluorobutane (HFC-365mfc).
- (xL) Chlorofluoromethane (HCFC-31).
- (xm) 1-Chloro-1-fluoroethane (HCFC-151a).
- (xn) 1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a).
- (xo) 1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxybutane (C₄F₉OCH₃).
- (xp) 2-(Difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CFCF₂OCH₃).
- (xq) 1-Ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅).
- (xr) 2-(Ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF₃)₂CFCF₂OC₂H₅).
- (y) Methyl acetate.
- (z) Perfluorocarbon compounds which fall into the following classes:
 - 1. Cyclic, branched or linear completely fluorinated alkanes.
 - 2. Cyclic, branched or linear completely fluorinated ethers with no unsaturations.
 - 3. Cyclic, branched or linear completely fluorinated tertiary amines with no unsaturations.
 - 4. Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(za) [Perchloroethylene](#)

Note: The test methods used to measure VOC are specified in s. NR 439.06(3).

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

CHANGES TO CONSTRUCTION PERMIT LANGUAGE

SECTION____ NR 406.04(2)(f)1. is renumbered 406.04(2)(f) and is amended to read:

(f) The maximum theoretical emissions from the source for any hazardous air contaminant listed in ~~Table 1~~ ~~or Table 4~~ ~~04~~ Table A, B or C of s. NR 445.04 are not greater than the emission rate listed in ~~Table 1 or Table 4~~ of ~~s. NR 445.04~~ in columns (c), (d) or (e) of Table A, B or C for the air contaminant for the respective stack height.

SECTION____ NR 406.04(2)(f)2., 3. and 3m. are deleted:

~~2. The maximum theoretical emissions from a source which manufactures or processes pesticides, rodenticides, insecticides, herbicides or fungicides for any hazardous air contaminant listed in Table 2 of s. NR 445.04 are not greater than the emission rate listed in the table for the air contaminant for the respective stack height.~~

~~3. The maximum theoretical emissions from the source of any hazardous air contaminant listed in Table 3 of s. NR 445.04 do not exceed the emission rate contained in the table.~~

~~3m. The maximum theoretical emissions from the source of any hazardous air contaminant listed in Table 5 of s. NR 445.04 are not greater than the emission rate listed in that table for the air contaminant for the respective stack height.~~

SECTION____ NR 406.04(4)(a)4. and 5. are amended to read:

NR 406.04(4)(a)4. The use will not result in a net emissions increase of a hazardous air contaminant above the threshold amount listed for the contaminant in Tables ~~1 to 5~~ A to C of ch. NR 445 or the product of the following terms is equal to or less than 1.0:

$$\frac{\text{TLV (old substance)}}{\text{TLV (new substance)}} \times \frac{\text{Emissions (proposed new substance)}}{\text{Emissions (permitted old substance)}} \leq 1.0$$

New language pertaining to off-site impact resulting from the change may be considered, for example:

5. The use will not result in a violation of any emission limit in chs. NR 405, 408, 409 ~~and~~ , 415 to 436 ~~and~~ 445.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

CHANGES TO OPERATION PERMIT LANGUAGE IF NECESSARY

SECTION ____ NR 407 ____ is amended to read:

CHANGES TO INVENTORY FEES LANGUAGE

SECTION __ NR 410.02(2)(b)2. is amended to read:

NR 410.02(2)(b)2. Except as provided under sub.(4), emissions in excess of ~~4,000~~ 5,000 tons per year of any air contaminant from any one facility.

SECTION __ NR 410.03(2)(g) is amended to read:

NR 410.03(2)(g)\$650, if the source is subject to an emission limitation under chs. NR 446 to ~~483~~ 469 or if the permit establishes an emission limit for a hazardous air contaminant listed in Table ~~1, 2, 4~~ A, B or ~~5~~ C of ch. NR 445.

SECTION __ NR 410.04(2)(b)5. and 6. are created to read:

NR 410.04(2)(b)5. Emissions of acetone, sec-butanol, tert-butanol, n-butyl acetate, chlorobromomethane, diethyl ketone, ethyl acetate, isobutyl acetate, methyl acetate, methyl acetylene, octane (all isomers), pentane (all isomers) and vinylidene fluoride.

6. Emissions of di-n-octyl phthalate; octachlorostyrene; pentachlorobenzene; perylene; 1,2,3,4-tetrachlorobenzene; 1,2,4,5-tetrachlorobenzene; tributyl tin

CHANGES TO CONTROL OF ORGANIC COMPOUND EMISSIONS LANGUAGE

SECTION ____ NR 419.07(4)(b)3. is amended to read:

NR 419.07(4)(b)3. The maximum emission limit for any hazardous air contaminant listed in tables ~~1 to 5~~ A to C of s. NR 445.04 under ch. NR 445.

SECTION ____ NR 419.07(6)(a)1.b. is amended to read:

NR 419.07(6)(a)1.b. When a substance listed in ~~Table 3~~ with a control requirement in Table A or C of s. NR 445.04 is present in the contaminated soil, testing for ~~the Table 3~~ these substances shall be done once during the

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

first 3 days of operation, once during the third week of operation, and once every 6 months thereafter. For soil contaminated with more than one ~~Table 3~~ air contaminant with a control requirement in Table A or C, the department's bureau of air management may approve the testing of certain ~~Table 3~~ substances that act as indicators for other ~~Table 3~~ substances with a control requirement in Table A or C present in the soil.

SECTION__ NR 419.07(7)(b) is amended to read:

NR 419.07(7)(b) Maintain records for 3 years quantifying the year-to-date weight of s. NR 445.04 ~~Table 3~~ substances with a control requirement in Table A or C contained in soil or water remediated for which testing was required under sub. (6).

CHANGES TO SOLVENT CLEANING OPERATIONS LANGUAGE

SECTION__ NR 423.04 is repealed

The Ozone Section of the Bureau of Air Management will be asked to evaluate the whether the NR 423.04 perchloroethylene dry cleaning needs to be retained if that compound is listed as an non-photochemically reactive.

CHANGES TO INVENTORY REPORTING LANGUAGE

SECTION __ NR 438.03(1)(b) is amended to read:

NR 438.03(1)(b) When preparing its emission inventory report, the owner or operator of a facility may rely on information in an approved material safety data sheet. Trace contaminants need not be reported if they constitute less than 1% of the material, or 0.1% of the material if the air contaminant is listed with a control requirement in ~~Table 3~~ Table A or C of s. NR 445.04.

SECTION __ Table 1 of NR 438.03 is deleted and recreated as:

[Insert New Table 1 Here]

CHANGES TO COMPLIANCE REQUIREMENT LANGUAGE IF NECESSARY

SECTION__ NR 439__ is amended to read:

PERCHLOROETHYLENE RELATED:

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

Note this change may be required if NR 423.04(3) is deleted or modified

SECTION____ NR 468.20(1)(b) is amended to read:

NR 468.20(1)(b) Each dry cleaning system that commences construction or reconstruction on or after December 9, 1991, shall be in compliance with the provisions of this section beginning on July 1, 1995 or immediately upon startup, whichever is later, except for dry cleaning systems constructed or reconstructed before September 22, 1993, which shall comply with sub. (3)(b) beginning on September 23, 1996, and shall comply with other provisions of this section by July 1, 1995.

~~Note: Dry cleaning systems installed before the date the federal rule became effective, September 22, 1993, are required under s. NR 423.04(3) to use a carbon adsorption system or equivalent.~~

CHANGES TO INCORPORATION BY REFERENCE LANGUAGE IF NECESSARY

SECTION____ NR 484____ is amended to read:

CHANGES TO SPILLS IN 706 AND RELATED CHAPTERS LANGUAGE IF NECESSARY

SECTION____ NR 706 and related chapters are amended to read:

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

Note: Changed language is in reference to the November 14, 2000 version.

Language marked for deletion in November remains marked for deletion in this version rather than being removed.

Chapter NR 445

CONTROL OF HAZARDOUS POLLUTANTS

NR 445.01 Applicability; purpose
NR 445.02 Definitions
NR 445.03 General limitations
NR 445.04 Emission thresholds, standards and control requirements
NR 445.05 Exempt emissions
NR 445.06 Compliance requirements
NR 445.07 Variance
NR 445.08 Hazardous air contaminant review
NR 445.09 Hazardous air contaminant special studies
NR 445.10 Hazardous air contaminant limitations
NR 445.11 Notice of hazardous substance air spills

No change to section from November 2000

NR 445.01 Applicability; purpose. (1) **APPLICABILITY.** (a) This chapter applies to all air contaminant sources which may emit hazardous pollutants and to their owners and operators. The emission limitations and control requirements of this chapter do not apply to a source of a hazardous air contaminant regulated under chs. NR 446 to 449 for the specific hazardous air contaminants regulated under those chapters or to a source which must meet a national emission standard for a hazardous air pollutant promulgated under section 112 of the act (42 USC 7412) for the specific air pollutant regulated under that standard.

(b) Notwithstanding par. (a), after the effective date of emission limitations of this chapter, a source of hazardous air pollutants subject to a national emission standard under section 112 of the act shall continue to comply with the provisions of this chapter provided this is allowed by regulations promulgated under section 112 of the act.

(2) **PURPOSE.** This chapter is adopted under ss. 285.11, 285.13, 285.17 and 285.27, Stats., to establish emission limitations for hazardous pollutants.

NR 445.02 Definitions have been renumbered, definitions for disposal, manufacturer and treatment have been added and definition for "indoor fugitive emissions" has been changed back to how it currently exists in NR 445.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

NR 445.02 Definitions. The definitions contained in ch. NR 400 apply to the terms used in this chapter.

In addition, the following definitions apply to the terms used in this chapter and in chs. NR 446 to ~~469~~ 449:

(1) "Approved material safety data sheet" means a material safety data sheet which meets the reporting requirements of the superfund amendments reauthorization act of 1986 (42 USC 9671 to 9675) or regulations of the occupational safety and health administration under 29 CFR 1910.1200(g), as in effect on February 1, 1998.

~~(2) "Asbestos" means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite and actinolite-tremolite.~~

~~(3) "Beryllium" means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any other elements.~~

~~(4)~~ (2) "Best available control technology or BACT" means an emission limit for a hazardous air contaminant based on the maximum degree of reduction practically achievable as specified by the department on an individual case-by-case basis taking into account energy, economic and environmental impacts and other costs related to the source.

(3) "Disposal" means the controlled discharge into the environment of a listed hazardous air contaminant in Table B or C for the expressed purpose of waste disposal.

~~(5)~~ (4) "Downwash minimization stack height" means a stack height equal to $(H + 1.5D)$ where H is the height of the structure and D is the lesser of the structure height or structure cross-wind horizontal dimension in the immediate vicinity of the stack.

(5) "Facility" has the meaning given in NR 400.02(63)

(6) "Gasoline dispensing facility" has the meaning given in NR 400.02(73)

~~(6)~~ (7) "Hazardous air contaminant" means any air contaminant for which no ambient air quality standard is set in ch. NR 404 and which the department determines may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or may pose a significant threat to human health or the environment. The term hazardous air contaminant includes, but is not limited to, the substances listed in Tables A to ~~5~~ C in s. NR 445.04.

~~(7)~~ (8) "Indoor fugitive emissions" means an air contaminant present in a workplace which is emitted to the ambient air from general ventilation sources

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

(9) "Laboratory" has the meaning given in NR 400.02(90)

~~(8)~~ (10) "Lowest achievable emission rate or LAER" means the rate of emission of a hazardous air contaminant which reflects the more stringent of the following:

(a) The most stringent emission limitation for the hazardous air contaminant which is contained in the air pollution regulatory program of any state for this class or category of source, unless an applicant for a permit demonstrates that this limitation is not achievable; or

(b) The most stringent emission limitation for the hazardous air contaminant which is achieved in practice by the class or category of source.

~~(9) "Mereury" means the element mereury, excluding any other elements, and includes mereury in particulates, vapors, aerosols and compounds.~~

(11) "Manufacturer" means those engaged in the process of making, fabricating, constructing, forming or assembling a product from raw, unfinished, semifinished or finished materials. Packing, bottling, labeling and packaging are all considered to be manufacturing activities.

(12) "Modification" has the meaning given in NR 400.02(99)

~~(9g)~~ (13) "Reference concentration" means a verified reference concentration developed by the United States environmental protection agency which is an estimate of an exposure of the human population, including sensitive subgroups, to a hazardous air contaminant that is likely to be without an appreciable risk of deleterious effects during a lifetime. A reference concentration is based on continuous inhalation exposures to the hazardous air contaminant and is expressed in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

~~(9m)~~ (14) "Reference method" means any method of sampling and analyzing for an air pollutant as described in 40 CFR part 61, Appendix B, incorporated by reference in s. NR 484.04.

~~(10)~~ (15) "Refuse derived fuel" means municipal solid waste which has undergone a process to, at a minimum, remove hazardous waste, minimize metals, glass and other non-combustible material; and has been processed for use as a fuel. Refuse derived fuel does not include tires, tire fragments, waste oils, waste solvents, and other material not normally contained in household solid waste.

(16) "Stationary source" means any facility, building, structure or installation that directly or indirectly emits or may emit an air contaminant only from a fixed location. A stationary source includes an air contaminant source that is capable of being transported to a different location. A stationary source may consist of one or more

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

pieces of process equipment, each of which is capable of emitting an air contaminant. A stationary source does not include a motor vehicle or equipment which is capable of emitting an air contaminant while moving.

(17) "Treatment" means any method, technique or process, including thermal destruction, which changes the physical, chemical or biological character or composition of a listed hazardous air contaminant in Table B or C so as to render the contamination less hazardous, safer for transport or management, amenable to recovery, convertible to another usable material or reduced in volume.

~~(14)~~ (18) "Virgin fossil fuel" means any solid, refined liquid or refined gaseous fossil fuel with a Btu content greater than 7,000 Btu/lb which is not blended with reprocessed or recycled fuels. Group 1 virgin fossil fuels consist of natural gas, liquid petroleum gas, distillate fuel oil, gasoline and diesel fuel. Group 2 virgin fossil fuels consist of coal, and residual fuel oil.

No change to section from November 2000

NR 445.03 General limitations. No person may cause, allow or permit emissions into the ambient air of any hazardous substance in a quantity, concentration or duration which is injurious to human health, plant or animal life unless the purpose of that emission is for the control of plant or animal life. Hazardous substances include but are not limited to hazardous air contaminants listed in Tables A to ~~5~~ C of s. NR 445.04.

NR 445.04 (including tables 1-5) would be repealed and recreated as follows. Changes from November 2000 include removing the word processor from table titles, added placeholders for performance standards for Compressed Ignition Internal Combustion Engines, Wood Products Manufacturing and Asphalt Production and Application (pending discussion of the outstanding issues).

NR 445.04 Emission thresholds, standards and control requirements (1) STATIONARY SOURCES.
Except as provided in s. NR 445.05,
(a) No owner or operator of a stationary source may cause, allow or permit emissions from a source of a hazardous air contaminant listed in Table A in such quantity or duration as to cause an ambient air concentration off the source's property which exceed the ambient air standard in column (f) of Table A for the hazardous air contaminant.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

(b) Any owner or operator of a source subject to sub. (a) may request¹ an alternative emission standard of ten percent of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists, in the threshold limit values and biological exposure indices for 2000, incorporated by reference in s. NR 484.11, for any contaminant with a 24-hour averaging period in column (g) of Table A if:

1. The hazardous air contaminant is emitted no more than 5 days in any consecutive 30-day period.
2. The department determines that after complying with s. NR 445.08(1) such limits will not pose a threat to public health or welfare.

(c) The owner or operator of any stationary source which emits any contaminant with a control requirement in column (h) of Table A in an amount greater than those listed in column (c), (d) or (e) of Table A shall control emissions of those hazardous air contaminants to a level which is identified in column (h) of the table as either:

1. The lowest achievable emission rate (LAER)
2. The best available control technology (BACT).

(d) The control requirements in sub. (c)1. and 2. shall be met by the emissions unit at the source which emits the greatest amount of the hazardous air contaminant. If application of the control requirement to this emissions unit does not reduce source emissions of the hazardous air contaminant to a level less than their respective rates listed in column (c), (d) or (e) of Table A for the hazardous air contaminant, then the control requirement shall be met by other emissions units at the source which emit decreasingly smaller amounts of the hazardous air contaminant until emissions from the source are below the emission rates listed in column (c), (d) or (e) of Table A or until all emissions units at the source which emit at least 10% of the rates listed in column (c), (d) or (e) of Table A for the hazardous air contaminant have met the control requirement. If application of the control requirement to these emissions units does not result in the control of at least 50% of the potential emissions of the hazardous air contaminant from the source, then the department may require application of the control requirement on a reasonable array of smaller emissions units which emit the hazardous air contaminant. Pollution prevention and material substitution efforts may be considered in meeting this control requirement.

¹ [General procedure on how to request alternative emission standard inserted here.]

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

(2) MANUFACTURERS AND TREATMENT AND DISPOSAL OF PESTICIDES, RODENTICIDES, INSECTICIDES, HERBICIDES OR FUNGICIDES. Except as provided in s. NR 445.05(3) and (4),

(a) No owner or operator of a stationary source may cause, allow or permit emissions from a source of a hazardous air contaminant listed in Table B in such quantity or duration as to cause ambient air concentrations off the source 's property which exceed the ambient air standards in column (f) of Table B for the respective hazardous air contaminants.

(b) The owner or operator of any source which emits any contaminant with a control requirement in column (h) of Table B in an amount greater than those listed in column (c), (d) or (e) of Table B shall meet the requirements of sub. (1)(c) and (d) for those contaminants.

(c) Any owner or operator of a source subject to this section shall also comply with sub. (1) of this section.

(3) MANUFACTURERS AND TREATMENT AND DISPOSAL OF PHARMACEUTICALS. Except as provided in s. NR 445.05(3) and (4),

(a) The owner or operator of any source which emits any contaminant with a control requirement in column (h) of Table C in an amount greater than those listed in column (c), (d) or (e) of Table C shall meet the requirements of sub. (1)(c) and (d) for those contaminants.

(b) Any owner or operator of a source subject to this section shall also comply with sub. (1) of this section.

(4) INCINERATORS. (a) Any owner or operator of a stationary source which combusts municipal solid waste as defined in s. NR 500.03(150) or infectious waste shall comply with sub. (1)(a) and shall control emissions of hazardous air contaminants having a control requirement in column (h) in Table A or Table C to a level which is the lowest achievable emission rate.

(b) A source which combusts refuse derived fuel in a boiler and obtains less than 50% of its heat input from the refuse derived fuel is not subject to this subsection.

(5) WOOD COMBUSTION.

INSERT PERFORMANCE STANDARD LANGUAGE HERE

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

(6) COMPRESSED IGNITION INTERNAL COMBUSTION ENGINES.

INSERT PERFORMANCE STANDARD LANGUAGE HERE

(7) WOOD PRODUCTS MANUFACTURING

INSERT PERFORMANCE STANDARD LANGUAGE HERE

(8) ASPHALT PRODUCTION AND APPLICATION

INSERT PERFORMANCE STANDARD LANGUAGE HERE

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

Table A EMISSION THRESHOLDS, STANDARDS AND CONTROL REQUIREMENTS FOR ALL SOURCES

Hazardous Air Contaminant (a)	Chemical Abstract System # (b)	Thresholds (per averaging time expressed as lbs/hr or lbs/yr) for emission points			Ambient Air Standard (per averaging time expressed as micrograms / cubic meter) (f)	Averaging Time for Standard and Threshold (g)	Control Requirement (h)
		<25 feet (c)	25 to <75 (d)	≥75 feet (e)			
Acetaldehyde	75-07-0	3.36 808	10.7 3,318	55.3 27,845	4,504	1-hour Annual	BACT
Arsenic and inorganic compounds, as As	7440-38-2	0.413	1.698	14.25		Annual	LAER

Table B EMISSION THRESHOLDS , STANDARDS AND CONTROL REQUIREMENTS FOR MANUFACTURERS AND TREATMENT AND DISPOSAL OF PESTICIDES, RODENTICIDES, INSECTICIDES, HERBICIDES OR FUNGICIDES

Hazardous Air Contaminant (a)	Chemical Abstract System # (b)	Thresholds (per averaging time expressed as lbs/hr or lbs/yr) for emission points			Ambient Air Standard (per averaging time expressed as micrograms / cubic meter) (f)	Averaging Time for Standard and Threshold (g)	Control Requirement (h)
		<25 feet (c)	25 to <75 (d)	≥75 feet (e)			
Aldin	309-00-2	0.0134	0.0522	0.405	6	24 hour	
1,3-Dichloropropene	542-75-6	0.244	0.947	7.361	109	24 hour	
		444 3,554	1,825 14,600	15,315 122,517		Annual Annual	BACT

Table C EMISSION THRESHOLDS AND CONTROL REQUIREMENTS FOR MANUFACTURERS, AND TREATMENT AND DISPOSAL OF PHARMACEUTICALS

Hazardous Air Contaminant (a)	Chemical Abstract System # (b)	Thresholds (per averaging time expressed as lbs/hr or lbs/yr) for emission points			Ambient Air Standard (per averaging time expressed as micrograms / cubic meter) (f)	Averaging Time for Standard and Threshold (g)	Control Requirement (h)
		<25 feet (c)	25 to <75 (d)	≥75 feet (g)			
Adriamycin	23214-92-8	10	10	10		Annual	BACT
Azathioprine	446-86-6	3.484	14.31	120.1		Annual	LAER

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WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

NR 445.05 would be repealed and recreated as follows. Changes from November 2000 include "indoor fugitive emissions" has been changed back to how it currently exists in NR 445.

NR 445.05 Exempt emissions.

- (1) Emissions from the combustion of group 1 virgin fossil fuels.
- (2) Emissions from the combustion of group 2 virgin fossil fuels vented from a stack which has downwash minimization stack height or a height approved by the department.
- (3) Emissions from a laboratory.

Note: Language in (4)(a) and (b) is intended to be identical to what is found in currently in NR 445. Additional work to refine language is needed.

(4)(a) Indoor fugitive emissions with standards expressed as ambient air concentrations having 1 hour or 24 hour averaging times in column (f) in Table A, B, or C.

(b) Indoor fugitive emissions with standards expressed as control requirements or as ambient air concentrations having an annual averaging time in column (f) in Table A, B, or C which are exhausted to the ambient air through general building ventilation and which have a threshold limit value established by the American conference of governmental and industrial hygienists in the threshold limit values and biological exposure indices for 2000, incorporated by reference in s. NR 484.11, and for which the source demonstrates to the department that it is in compliance with applicable occupational safety and health administration requirements.²

(5) Emissions from any gasoline dispensing facility which meets the requirements of s. NR 420.04(3)(b) to (i) and which dispenses less than 2 million gallons of gasoline a year ~~or can otherwise demonstrate to the satisfaction of the department that it will not exceed an emission limitation for a Table 1 hazardous air contaminant.~~

(6) Emissions from any gasoline dispensing facility which does not meet the requirements of s. NR 420.04(3)(b) to (i) and which dispenses less than 1.25 million gallons of gasoline a year ~~or can otherwise demonstrate to the satisfaction of the department that it will not exceed an emission limitation for a Table 1 hazardous air contaminant.~~

(7) Emissions of amorphous and crystalline silica under study per sec. NR 445.09.

² For purposes of this subsection, compliance with the applicable occupational safety and health administration requirements must include language regarding worker exposure. Showing can be made by source. Does not have to be an official OSHA inspection.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

NR 445.06 No changes from November 2000. Need transitional requirements to ensure continuing compliance with existing regulation. Search & Inquiry and/or "safe harbor" language may be placed in this subsection.

NR 445.06 Compliance requirements

(1) COMPLIANCE DEMONSTRATION. For the purpose of determining compliance with s.NR 445.04:

(a) The department shall allow credit for the emission reduction capability of in-place control devices.

(b) The owner or operator of a source may demonstrate compliance with emission ~~limitations of sub. (1), (2), (4) or (4r)~~ standards expressed as ambient air concentrations in Table A or B by demonstrating³ that the concentration of the ~~hazardous air contaminant in Table 1, 2, 4 or 5 of s.NR 445.04~~ substance in Table A or B in the stack is less than the ambient concentration allowed under ~~sub. (1), (2), (4) or (4r)~~ column (f) of the table.

(c) The owner or operator of a source is not required to consider emissions resulting directly from naturally occurring constituents in windblown soil.

(d) The owner or operator of a source may rely on information on an approved material safety data sheet if the approved material safety data sheet lists a hazardous air contaminant listed in Tables ~~1 to 5 of s. NR 445.04~~ A to C and the hazardous air contaminant ~~listed in Table 1, 2, 4 or 5~~ with standards expressed as ambient air concentrations in Table A, B, or C constitutes 10,000 parts per million or more of the material or ~~the~~ for hazardous air contaminants ~~listed in Table 3~~ with standards expressed as control requirements constitutes 1,000 parts per million or more of the material. If an approved material safety data sheet for a material is not classified as proprietary and does not list a hazardous air contaminant in Tables ~~1 to 5~~ A to C at or above the amounts listed in this ~~paragraph~~ subdivision, that material will be presumed not to result in emissions of a hazardous air contaminant unless a hazardous air contaminant is formed in processing the material.

(e) The owner or operator of a source may rely upon mass balance or other use, consumption and analytical methodologies for calculating potential emissions. However, the department may require that a stack test be conducted to affirm the accuracy of emission estimations.

(f) **[Modeling demonstration]** The owner or operator of a source may rely on information generated by either the US EPA screening or refined dispersion model to demonstrate that maximum theoretical emissions of a

³ This demonstration must be done under whatever conditions would be allowed by permit or order or at MTE.

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WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

hazardous air contaminant will not exceed the ambient standard in column (f) of Table A or B or with the provisions of par. (g). If a source elects to use the screening model for purposes of demonstrating compliance then

[IT MUST FOLLOW THE PROCEDURES SET FORTH IN THE SEPTEMBER 11, 2000 MEMO].

(g) [Risk based demonstration] The owner or operator of a source may demonstrate an alternative means of complying with the control requirements in subs. NR 445.04(1)(c), (2)(b) or (3)(a) by showing that:

1. For hazardous air contaminants with control requirements in Tables A, B or C having a US EPA unit risk factor, maximum theoretical emissions from all sources ⁴ are not released in such quantity or duration as to cause an ambient air concentration off the source's property which may cause a cumulative impact greater than 1 in 100,000⁵ and;

2. For hazardous air contaminants with control requirements in Tables A, B or C not having a US EPA unit risk factor, maximum theoretical emissions from all sources are less than 10 pounds per year for each contaminant.

(h) [Elective emission limitations] The owner or operator of a source may demonstrate compliance with standards and control requirements in subs. NR 445.04(1), (2) or (3) or the alternative compliance demonstration in par. (g) by electing to limit maximum theoretical emissions:

1. Below relevant thresholds in columns (c), (d) or (e) of Tables A, B or C.
2. To a level needed to satisfy the conditions in par. (g).

Any limitation elected under this paragraph shall be placed in a permit or general or special order.

[INSERT APPROPRIATE PERMIT LANGUAGE HERE]

(i) [Quantification issues - Language may be developed]

(j) [Risk screening in BACT & LAER reviews - Language may be developed]

(k) The owner or operator of a source which has achieved compliance with ~~sub. (4r)(a)~~ an emission standard based on its reference concentration prior to [insert effective date of rule] may not be required to meet additional requirements under ~~this section~~ s. NR 445.04(1) for a hazardous air contaminant having an ambient standard with an annual averaging time in column (g) of Table A if the reference concentration, ~~as listed in Table 5 of s. NR 445.04, is amended~~ for that contaminant is revised after the effective date of a national emission standard

⁴ Description of all sources (exempt, fugitive, etc) needs to be added here

⁵ This number is determined using the following calculation:

$$\sum (\text{individual impacts}_{\text{annual average}} \times \text{US EPA Unit Risk Factor})$$

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

applicable to the source which is promulgated under section 112 of the act (42 USC 7412) for that hazardous air contaminant.

(2) COMPLIANCE SCHEDULES.

(a) sources subject to the emission standards in s. NR 445.04 and constructed or last modified on or after [effective date of rule] shall demonstrate compliance upon startup.

(b) sources constructed or last modified prior to [effective date of rule] with **potential, non-exempt** emissions of a hazardous air contaminant **less** than the applicable threshold in columns (c), (d) or (e) shall maintain records in accordance with s. NR 439.04(1) and (2).

(c) sources constructed or last modified prior to [effective date of rule] with **potential, non-exempt** emissions of a hazardous air contaminant **greater** than the applicable threshold in columns (c), (d) or (e) shall:

1. Demonstrate compliance with applicable standard [no later than 36 months after effective date of rule].
2. For sources required to obtain an operation permit under s. NR 407.04, the demonstration shall be submitted on the application forms required for an operation permit, an amendment to an application, renewal of the operation permit, or for a significant revision under s. NR 407.13.
3. For sources not required to obtain an operation permit, the demonstration shall be submitted according to the certification process in par. (4).

(3) COMPLIANCE EXTENSIONS.

1. The department may, at the request of the owner or operator of a source, grant an extension of any compliance deadline in par. ~~(a), (am) or (bm)~~ (c) for a period not to exceed 6 months.
2. *Subsequent requirements.* The owner or operator of a source which has achieved compliance with this ~~section~~ chapter by installing emission control equipment may not be required to install additional control equipment to achieve compliance with this ~~section~~ chapter for a period of 10 years after the installation of the control equipment or the useful life of the control equipment as determined by the department, whichever is less. For the purposes of this paragraph, increasing stack height, other dilution measures, or material reformulation may not be construed as installation of emission control equipment. Material reformulation which requires substantial capital expenditures for process equipment which was made with prior department approval and which results in a reduction of emissions of hazardous air contaminants which is sufficient to comply with the limitations of this ~~section~~ chapter may be construed as installation of emission control equipment under this ~~subdivision~~ paragraph.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

(4) CERTIFICATION PROCESS

NR 445.07 **Variance.** ~~(a)~~ (1) The owner or operator of a source may apply for and the department may grant a variance from ~~an emission limitation of sub. (3)(a), (4r)(a) or (5)~~ s. NR 445.04(1)(a) for a contaminant having an ambient air standard based on an annual averaging time, or the control requirements of s. NR 445.04(1)(c)1., or (4) if the applicant demonstrates to the satisfaction of the department that applicable provisions under par. ~~(b) or (c)~~ (a) or (b) are met. The department shall publish a notice of, and hold a public hearing on, any preliminary determination to approve a variance request under this subsection. The department shall grant or deny a variance request within 90 business days after the close of the public comment period on the request. The department shall review any variance granted under this subsection on a 5 year basis. Following its review and after notice and an opportunity for a public hearing and public comment, the department may modify, extend or rescind the variance.

~~(b)~~ (a) An applicant for a variance from ~~the emission limitation of sub. (3)(a) or (5)~~ the control requirements of s. NR 445.04(1)(c)1., or (4) shall demonstrate all of the following to the satisfaction of the department:

1. Compliance with ~~sub. (3)(a) or (5)~~ s. NR 445.04(1)(c)1., or (4) would be economically infeasible.
2. Residual emissions of the hazardous air contaminant in question would not cause significant harm to the environment or public health.
3. The source's emissions are controlled to a level which is the best available control technology.

~~(c)~~ (b) An applicant for a variance from the emission limitation of ~~sub. (4r)(a)~~ s. NR 445.04(4) shall demonstrate all of the following to the satisfaction of the department:

1. All direct or portable sources owned or operated in the state by the owner or operator of the air contaminant source for which a variance is requested are in, or are on a schedule for, compliance with all applicable requirements of chs. NR 400 to 499.
2. The emission limitation from which variance is sought is technologically or economically infeasible to meet due to conditions or special circumstances at the source, including adverse environmental or energy impacts.

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

3. Residual emissions of the hazardous air contaminant in question under the emission limitations proposed for inclusion in the variance would not cause significant harm to public health.

4. Good faith efforts have been made to comply with ~~sub. (4)(a)~~ s. NR 445.04(4) and all reasonably available alternative operating procedures and interim control measures to minimize emissions of the hazardous air contaminant will be utilized during the duration of the variance.

(2) The department shall consult with the department of health and family services to determine that residual emissions would not cause significant harm under par. (1)(a)2. and (b)3. prior to establishing an emission limitation in a permit or order under this section.

(3) Application for a variance under this section shall be submitted on the application forms required for a construction permit, an operation permit, an amendment to an application, renewal of the operation permit, or for a significant revision under s. NR 407.13.

[ALL VARIANCES WILL BE HANDLED THROUGH THE PERMIT PROCESS.]

NR 445.068 Hazardous air contaminant review. (1) The department staff shall consult with the department of health and ~~social~~ family services prior to incorporating an emission limit under s. NR 445.04~~(1)(a)2.~~ ~~or 445.05(1)(a)2.~~ (1)(b) in an order or a permit.

~~(2) The department shall, after consultation with the department of health and social services, submit a report to the natural resources board which contains recommended acceptable ambient concentrations for the hazardous air contaminants listed in Table 4 of s. NR 445.04 by October 1, 1990. Unless a specific acceptable ambient concentration is recommended for a hazardous air contaminant, the acceptable ambient concentration for each hazardous air contaminant shall be the limits specified in s. NR 445.05(4)(a) and (b).~~

~~(3)~~ (2)(a) The department shall monitor changes in the classifications of hazardous air contaminants ~~in Tables 1 to 5 of s. NR 445.04~~ as reported by the American conference of governmental industrial hygienists, the United States environmental protection agency, the international agency for research on cancer, and the national toxicology program and shall prepare rule modifications ~~to the tables~~ to incorporate these changes according to the schedule in par. (c).

**NOT OFFICIAL ADMINISTRATIVE CODE LANGUAGE
WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

(b) The department shall presume that any hazardous air contaminant which is included on a list of known or suspected carcinogens by both the international agency for research on cancer and the national toxicology program is a hazardous air contaminant which should be listed in Tables A, B or C with a control requirement. This presumption may be overcome for adding or removing contaminants to or from Tables A, B or C if the greater weight of evidence demonstrates the presumption is incorrect.

(c) **[BIENNIAL PROCESS TO UPDATE NR 445]** Beginning [2 years after effective date of rule] and every two years thereafter, the department shall:

1. Develop⁶ and submit a the list of changes monitored under par. (a) to a committee of affected industry, public health officials and other interested parties.

2. Identify and establish special studies as needed.

~~(4)~~ (3) The department staff shall consult with the department of health and ~~social~~ family services prior to establishing an emission limit, in a permit or order, for any hazardous air contaminant which is not listed in Table A, B, or C ~~or 4~~ of s. NR 445.04 or in threshold limit values and biological exposure indices for ~~1990-1991~~ 2001 adopted by the American conference of governmental industrial hygienists, incorporated by reference in s. NR 484.11.

~~(5) The department staff shall, with the cooperation of affected industrial and municipal wastewater treatment facilities, by October 1, 1990, undertake and complete a study of the types and quantities of hazardous air contaminants emitted from wastewater treatment facilities and emission control techniques applicable to hazardous air contaminants emitted from wastewater treatment facilities. The department staff shall submit a report of its study to the natural resources board by January 1, 1991.~~

(5) **[HAPs > 99 ppm]** The department shall monitor sources of emission of [contaminants in NR 438 having threshold limit values greater than 99 ppm, established by the American conference of governmental and industrial hygienists in the threshold limit values and biological exposure indices for 2000, incorporated by reference in s. NR 484.11]. If the department determines that emissions are of such quantity, concentration or duration that they exceed two and four tenths percent of their threshold limit value-time weighted average, they may establish a limitation in a permit or order that will ensure the source does not cause concentrations off of the source's

⁶ This list will be developed using the decision criteria.....

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WORKING DRAFT DOCUMENT FOR THE JUNE 19, 2001 TAG MEETING**

property which exceed two and four tenths percent of the threshold limit value-time weighted for any consecutive 24-hour averaging period.

(6) [WATCHLIST SUMMARY REPORT PLACEHOLDER] The department shall periodically prepare a report summarizing their effort to monitor and encourage voluntary reduction of emissions of hazardous air contaminants not listed in Tables A, B or C.

NR 445.09 Hazardous air contaminant special studies. (1) The department staff shall, with the cooperation of affected industry, public health officials and other interested parties, undertake and complete a study of the emissions of [type] silica by [24 months after effective date of rule]. The study shall include an inventory of sources and amount of emissions of silica, strategies to manage emissions, control technologies and costs.

(2) By [30 months after effective date of rule] department staff shall prepare rule modifications to establish threshold levels, compliance requirements and schedules.

NR 445.0710 Hazardous air contaminant limitations. The department may establish emission limitations for hazardous air contaminants for sources in permits or general or special orders issued by the department.

NR 445.0811 Notice of hazardous substance air spills.

Changes from November 2000 removed pending discussion of the outstanding issues.